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Silpha aenescens Casey (Silphidae: Coleoptera) as a Pest of Home Grown Strawberries in California

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Representatives of the family Silphidae are commonly known as carrion beetles and feed on decaying animal matter. Some species will occasionally attack fungi and vegetables, and a few members of the family are predaceous, attacking insects that frequent carcasses, especially blowfly larvae. Other silphids will attack snails, caterpillars, sawfly larvae and foliage-inhabiting insects (Comstock, 1950; Dillon and Dillon, 1961; Clausen, 1962). None have been implemented as pests of strawberries or other healthy fruits.

In the northern California coastal town of Bolinas, local inhabitants had been complaining of what was commonly referred to as a "black beetle" attacking the fruits of strawberry plants. Specimens sent to the present author were identified as *Silpha aenescens* Casey, a commonly occurring species found throughout the state.

Since the behavior of feeding on strawberries is atypical for members of this family, the author visited Bolinas on September 6th, 1982 to determine if the beetles were indeed causing the damage or if they were simply entering holes in the fruits made by slugs or other fruit-eating invertebrates.

After spending 2 days making observations in the infested area, the author concluded that *S. aenescens* could indeed feed on strawberries that had not been previously damaged by fungi or other invertebrates. Both adults and larvae of *S. aenescens* were found boring into fresh strawberry fruits. Ripened berries were preferred over young green fruit, but both were fed upon by the adult beetles.

The silphids could be found feeding throughout the day, but their numbers increased at dusk (Fig. 1). Mating pairs were commonly observed on the fruits. The adults would make excavations, then enter them and feed from the inside of the berries (Fig. 2), sometimes for as long as 30 minutes. Silphid larvae, presumably those of *S. aenescens,* were also observed feeding on strawberries while at other times they could be found digging and resting in holes in the ground.

Local growers claimed that the "black beetles" could cause considerable damage to strawberries, especially in the spring when the insects concentrated on the newly ripened berries. Curiously, the residents could not remember having problems with these insects 5–10 years ago and felt that this might represent a species newly introduced into the area. This hardly seems possible since records indicate that *S. aenescens* is widely distributed throughout the state. A reduction in the normal food supply often causes animals to take in other types of nourishment. Whether this might be the case here is not known.

Adults and larvae of *S. aenescens* were also collected from dog feces and dead animals adjacent to the strawberry growing areas. Movement of the insects from

Figure 1. An adult *S. aenescens* feeding on a strawberry fruit.
Figure 2. An adult *S. aenescens* feeding inside a partially excavated strawberry.

these habitats onto strawberries raises the concern of possible transmission of human disease organisms. A beetle that was associated with enteric bacteria from animal feces could carry spores or even vegetative cells to strawberry fruit. Hu-

mans, especially children, that ingest the partially damaged fruits could stand the risk of becoming infected with these coliform bacteria.

This association occurred in a relatively rural situation where there was an ample supply of refuse for beetle development, apart from strawberries. Most of the growers used little, if any insecticides in their production program. Such a situation is unlikley to occur in the production of commercial strawberries.

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